

What is claimed is:

1. A nucleic acid molecule coding for a fusion protein comprising a first polypeptide which has the autoproteolytic function of an autoprotease N^{pro} of a pestivirus, and a second polypeptide which is connected to the first polypeptide at the C-terminus of the first polypeptide in a manner such that the second polypeptide is capable of being cleaved from the fusion protein by the autoproteolytic activity of the first polypeptide, and where the second polypeptide is a heterologous polypeptide.

2. A nucleic acid molecule according to claim 1, wherein the pestivirus is selected from the group of CSFV, BDV and BVDV.

3. A nucleic acid molecule according to claim 2, wherein the pestivirus is CSFV.

4. A nucleic acid molecule according to claim 3, wherein the first polypeptide comprises the following amino acid sequence:

(1) -MELNHFELLYKTSKQKPVGVVEEPVYDTAGRPLFGNPSEVHPQSTLKLPHDRGRGDIRTTLRDL
PRKGDRCRSGNHLGFPVSGIYIKPGPVYYQDYTGFPVYHRAPLEFFDEAQFCEVTKRIGRVTGSDGKLYH
IYVCVDGCILLKLAKRGTPRTLKWIRNFTNCPLWVTSC - (168) ,

or the amino acid sequence of a derivative thereof with autoproteolytic activity.

5. A nucleic acid molecule according to claim 3, wherein the first polypeptide comprises the amino acid sequence Glu22 to Cys168 of the autoprotease N^{pro} of CSFV or a derivative thereof with autoproteolytic activity, wherein the first polypeptide additionally has a Met as N-terminus, and wherein the heterologous polypeptide is connected directly to the amino acid Cys168 of the autoprotease N^{pro} of CSFV.

6. A nucleic acid molecule according to claim 3, wherein the first polypeptide comprises the amino acid sequence Pro17 to Cys168 of the autoprotease N^{pro} of CSFV or a derivative thereof with autoproteolytic activity, wherein the first polypeptide additionally has a Met as N-terminus, and wherein the heterologous polypeptide is connected directly to the amino acid Cys168 of the autoprotease N^{pro} of CSFV.

7. A nucleic acid molecule according to any one of claims 1 to 6, wherein the nucleic acid molecule is a DNA molecule.

8. An expression vector which is compatible with a predefined bacterial host cell, comprising a nucleic acid molecule according to any one of claims 1 to 7 and at least one expression control sequence.

9. An expression vector according to claim 8, wherein the bacterial host cell is an *E. coli* cell.

10. An expression vector according to either of claims 8 or 9, wherein the expression vector is a plasmid.

11. A bacterial host cell comprising a vector according to any one of claims 8 to 10.

12. A bacterial host cell according to claim 11, wherein the host cell is an *E. coli* cell.

13. A process for the production of a desired heterologous polypeptide, comprising
(i) cultivation of a bacterial host cell according to either of claims 11 or 12, wherein cultivation occurs under conditions which cause expression of the fusion protein and autoproteolytic cleavage of the heterologous polypeptide from the fusion protein in the host cell by the autoproteolytic activity of the first polypeptide, and
(ii) isolation of the cleaved heterologous polypeptide.